

## CLAIMS

What is claimed is:

1. A semiconductor imaging system, comprising:  
a sensor having one or more receptors to generate digital output for an image, the one or more receptors associated with a pitch parameter;  
an image transfer medium having a diffraction-limited parameter adapted to the pitch parameter; and  
a semiconductor workstation that analyzes critical dimensions from the image.
2. The system of claim 1, further comprising an excitation source including at least one of about a 248nm source, about a 193 nm source, about a 157nm source, and about a 90 nm source.
3. The system of claim 2, further comprising a material that acts as a down-converter for the excitation source.
4. The system of claim 1, further comprising an epi-illumination source that is employed to analyze the critical dimensions.
5. The system of claim 2, further comprising a pulsed source that is associated with a component to enable at least one of synchronous and asynchronous capture of the image.
6. The system of claim 1, further comprising a robotic component to facilitate handling of a semiconductor specimen or a mask specimen.
7. The system of claim 1, further comprising an industrial control system to facilitate processing of an image specimen.

8. The system of claim 1, further comprising an application program that performs at least one of a comparative analysis, a correlative analysis, a cause and effect analysis, a learning system analysis, and a parametric analysis to identify or analyze a specimen.

9. The system of claim 1, further comprising a display to present the image to a user, the display including at least one of a computer monitor, a CRT, an LCD display, a TV, an organic light emitting device display (OLED), a semi-conductor image display device, a head-mount display, a flexible display, a monocular display, a binocular display, a projection display, a retinal display, and a Head-Up display.

10. The system of claim 1, the image is transferred across a network for analysis by at least one of a user and a computer.

11. The system of claim 10, the network is at least one of a local area network, an Internet, an Intranet, and a wireless network.